



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,633	07/07/2000	Tomio Mituhashi	1341.1008-D/JDH	8985
21171	7590	03/07/2006	EXAMINER LEUNG, CHRISTINA Y	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			ART UNIT 2633	PAPER NUMBER

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/612,633

Applicant(s)

MITUHASHI, TOMIO

Examiner

Christina Y. Leung

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 October 2005 and 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-14, 16-18, 20, 21 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14, 16-18, 20, 21 and 23 is/are allowed.
- 6) ☒ Claim(s) 24 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03 October 2005 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites "an optical filter provided on a contact surface" on line 15 of the claim but as currently amended, the claim later recites "a contact surface" on line 25 and "an optical filter" on line 27. The claim is indefinite because it is unclear if the claim later recites limitations regarding the same optical filter and contact surface as previously recited, or different elements altogether. Examiner respectfully suggests that Applicants remove the *first* instance of "an optical filter..." (i.e., lines 15-16 of the claim), since based on Applicants' specification and other claims, lines 15-16 of the claim currently recite redundant limitations.

Art Unit: 2633

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Medved et al. (US 5,818,619 A) in view of Tsuji et al. (US 5,664,035 A) and Ota (US 5,959,752 A).

Regarding claim 25, Medved et al. disclose (Figures 1 and 4) an optical communication unit (such as unit 54) provided between two apparatuses (such as terminal 50 shown in Figure 4, or even interface units 52 and 58) that perform optical communication with each other, the optical communication unit transmitting and receiving optical signals to and from the apparatus, the optical communication unit comprising:

a signal transmitting/receiving section including a light receiving section (including airlink receiver 21) to transmit an optical signal received from one of the apparatuses (interface unit 58), and a light emitting section (including airlink transmitter 26) to transmit an optical signal transmitted from the other of the apparatuses (interface unit 52) to the one of the apparatuses 58.

For clarification, Examiner notes that in Figure 4, if the optical communication unit is unit 54, the “other of the apparatuses” as discussed above would be interface unit 52 and the “one of the apparatuses” would be interface unit 58.

Medved et al. disclose converging lenses 23 and 27 arranged in paths of the optical signal. However, they do not specifically disclose that the unit further comprises a (single)

Art Unit: 2633

converging lens arranged in light paths of the optical signal from the one of the apparatuses to the light receiving section and the optical signal from the light emitting section to the one of the apparatuses.

However, Tsuji et al. teach an optical communication system related to the one disclosed by Medved et al. and further teach a light emitting section 222 and a light receiving section 221 integrated with each other and covered with one lens, converging lens 231 (Figures 2a-b). They also teach that the converging lens 231 converges a signal from the apparatus to the cable 41 as well as from the cable to the apparatus (Figure 2a).

It would have been obvious to a person of ordinary skill in the art to use a converging lens as taught by Tsuji et al. instead of the two lenses in the system disclosed by Medved et al. as an engineering design choice of an alternative way to focus and guide the incoming and outgoing signals between the optical fiber and the optical components. The claimed differences exist not as a result of an attempt by Applicants to solve an unknown problem but merely amount to the selection of expedients known as design choices to one of ordinary skill in the art. One in the art may be particularly motivated to provide one converging lens as taught by Tsuji et al. instead of two simply for economic reasons depending on the availability/cost of a single lens arrangement over a two lens arrangement.

Further regarding claim 25, Medved et al. do not specifically disclose that the light receiving section and the light emitting section are integrated with each other. However, Tsuji et al. teach that a light emitting section 222 and a light receiving section 221 may be integrated with each other (column 5, lines 66-67; column 6, lines 1-2). It would have been obvious to a person of ordinary skill in the art to integrate the light receiving section and the light emitting section in

Art Unit: 2633

the system disclosed by Medved et al. in order to arrange and manufacture the elements more efficiently.

Further regarding claim 25, Medved et al. do not specifically disclose a frame or an optical filter, although they do generally disclose that the signal transmitting/receiving section and lenses are mounted together in a unit (column 5, lines 14-22).

Ota teaches an optical communication system related to the one disclosed by Medved et al., including a light emitting section 8 and a light receiving section 9 with a lens 2 (Figure 2A)). Ota further teaches a frame formed in a box form to contain the light emitting section, light receiving section, and lens (Figures 1A-1C; column 8, lines 25-38) and a filter on a contact surface of the frame for blocking unwanted light from an optical receiver (filters 15a and 15b in Figure 4A), wherein the lens 2 faces the filter. It would have been obvious to a person of ordinary skill in the art to further include a frame and filter as taught by Ota in the system described by Medved et al. in view of Tsuji et al. in order to protect the elements of the system from external conditions and tampering and allow the light receiving section to receive desired communications without unwanted interference.

***Allowable Subject Matter***

6. Claims 11-14, 16-18, 20, 21, and 23 are allowed.
7. Claim 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2633

The prior art, including Medved et al., Tsuji et al., and Ota, does not specifically disclose or fairly suggest an optical communication unit including the combination of all the limitations and elements recited in claims 11, 14, and 24, particularly wherein the unit includes a frame containing the optical module, and wherein the unit has a contact surface with the apparatus-side communication unit (or a contact surface with a connector connectable to any one of the apparatuses) provided on the frame, an optical filter provided on the contact surface and lenses facing the filter to pass an infrared ray therethrough to the apparatus-side communication unit, in combination with the other elements and limitations recited.

Examiner notes that claim 25 appears to recite limitations that are similar to those recited in claims 11, 14, and 24, including a frame and a contact surface with a filter on the frame, but Examiner respectfully notes that the other claims recite combinations of limitations that more fully recite that the “contact surface” is in contact with the apparatus-side communication unit, connecting the frame containing the communication-side communication unit with the apparatus-side communication unit, and passing an infrared ray therethrough at this contact surface through a filter and lens (which faces the filter). Claim 14 also recites “a connector” that is connectable to any of the apparatuses and is specifically formed on the recited contact surface that also has a window and filter. Claim 25, in contrast, merely recites “a contact surface provided on said frame” and does not recite the particular physical connection or contact between the elements that is recited in the other independent claims.

Art Unit: 2633

***Response to Arguments***

9. Applicant's arguments filed 03 October 2005 with respect to claim 25 have been considered but are moot in view of the new ground(s) of rejection (i.e., Ota additionally teaches a frame and a filter, as discussed above).

Examiner respectfully disagrees with Applicant's assertion on page 8 of the response that claim 25 is "amended herein to recite similar features as those recited in claim 11 and thus, patentably distinguish over the cited prior art references for the reasons stated above," because claim 25 differs from claim 11 as discussed above.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR



Art Unit: 2633

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
CHRISTINA LEUNG  
PRIMARY EXAMINER